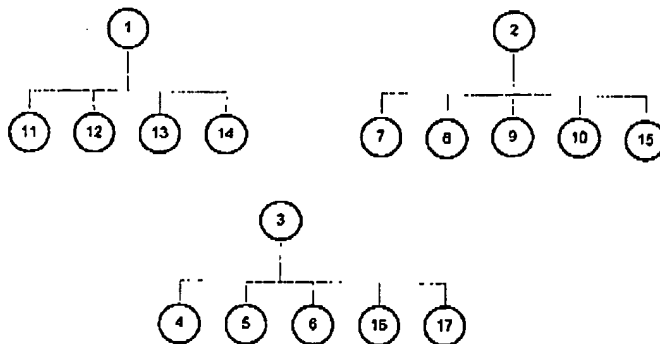


In re Appln. of: LeRoy G. Hagenbuch
Application No. 09/593,647

REMARKS

Applicants have carefully reviewed and considered the final Office Action dated December 29, 2005 and the references cited therein. Claims 1-17 are presented for examination. The below diagram illustrates the relationship among the claims.



Applicants note with appreciation the withdrawal of certain rejections described in paragraphs 2, 2.1 and 2.2 and the allowance of claims 1-10 over the prior art of record in paragraph 4.

Claims 1, 2 and 7-10 have been rejected, however, under 35 U.S.C. §112, second paragraph, for the use of the adjective "similar" to describe volumetric capacity. In this response, applicants have amended claim 1 to remove the word "similar" and replace it with the phrase "approximately the same." Claim 2 has been amended to remove the phrase "substantially similar" describing the modeled volume with respect to a desired volume in favor of saying the modeled volume "approximates" the desired volumetric capacity. This amendment relies on different forms of the term "approximate," which the Office action approvingly cites in paragraph 2.1 as a term that is "clear but flexible."

In paragraphs 4.1 through 4.6, the Office action offers reasons for allowance of the claims. Independent claim 3 and its dependent claims 4-6 had been previously allowed. Regarding the reasons for allowing claim 2 and its dependent claims, applicants agree that the process of the claim is unobvious over the prior art of record; however, applicants believe the emphasis is more properly placed on element (c) of the claim rather than element (d) as recited in paragraph 4.3 of the Office action.

In addition to making amendments to claims 2 and 3 in order to address the Section 112 rejections in the Office action, applicants have further amended claims 2 and 3 in order to remove the requirement that an edge of the floor of the body be curved. This

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feature is now set forth in new dependent claims 15 and 16, which depend from claims 2 and 3, respectively.

New claims 11-14 depending from claim 1 have been added to provide a variable scope of protection of the invention described in claim 1. Previously, claim 1 stood alone, without any dependent claims. Claims 11-14 are allowable for at least the same reasons claim 1 is allowable.

New claim 17 depends from claim 3 and highlights that the shape of the load recited in claim 3 is dependent on the type of material the load comprises.

This application is a continuation-in-part of parent U.S. patent application no. 09/333,379. The '379 application is on the docket of examiner Herng Der Day of Art Unit 2123. As of the mailing date of this response, the application is on the examiner's docket for consideration of an amendment filed March 8, 2006. That amendment presents for reconsideration claims 1-7, 9-26, 28-36, 38, 52-87.

By removing from claims 2 and 3 the requirement that the edge of the floor of the body be curved, these claims now more closely pattern at least claims 52 and 78, respectively in the parent application before examiner Day for reconsideration. In the last Office action, examiner Day rejected both claims 52 and 78. Claim 52 was rejected for missing an "essential element." Claim 78 was rejected as anticipated by U.S. Patent No. 5,887,914, which is of record in this application. In responding to these rejections, both claims 52 and 78 were amended in the response.

Claims 2 and 3 in this application and claims 52 and 78 in the '379 application are reproduced below for easy comparison. Differences in the claims are highlighted.

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'647 Application (CIP)	'379 Application (parent)
<p>2. A body of a vehicle for hauling material, the body made by the following process:</p> <p>(a) determining a desired location for a load center of gravity on a chassis of the vehicle;</p> <p>(b) determining a desired volumetric capacity for the body;</p> <p>(c) developing a three dimensional volumetric model of a load to be carried in the body on the chassis that includes corner voids, using data collected from an anticipated point of use;</p> <p>(d) adjusting a set of design parameters of the body until the load center of gravity for the three-dimensional volumetric model of the load is located proximate the desired location for the load center of gravity on the chassis and the volume of the three dimensional volumetric model approximates the desired volumetric capacity; and</p> <p>(e) producing the body in accordance with the set of design parameters.</p>	<p>52. A body of a vehicle for hauling material having a front wall, a pair of sidewalls and a rear edge, the body made by the following process:</p> <p>(a) collecting information describing a three-dimensional shape of a heaped load of material at an anticipated point of use for the body;</p> <p>(b) developing from the collected information a three-dimensional volumetric model of a load to be carried in the body on the chassis</p> <p>(c) adjusting a set of design parameters of the body until the load model center of gravity is located proximate a desired location for a load center of gravity on a chassis of the vehicle and the volume of the three-dimensional volumetric model is substantially similar to a desired volumetric capacity of the vehicle; and</p> <p>(d) producing the body in accordance with the set of design parameters.</p>
<p>3. A body of a haulage vehicle made by a process comprising:</p> <p>(a) modeling a shape of a load of heaped material in three dimensions, where the shape of the load of heaped material is substantially conical;</p> <p>(b) modeling a body to hold the substantially conically shaped load of heaped material, where a shape of the body is determined by predetermined parameters; and</p> <p>(c) producing the body according to values of the predetermined parameters resulting from modeling of the body.</p>	<p>78. A body of a haulage vehicle made by a process comprising:</p> <p>(a) modeling a shape of a load of heaped material in three dimensions, where the shape is substantially conical and the modeling incorporates information about angles of repose for a particular heaped material to be hauled by the vehicle;</p> <p>(b) modeling a body to hold the substantially conically shaped load of the material, where a shape of the body is defined by predetermined parameters; and</p> <p>(c) producing the body according to values of the predetermined parameters resulting from the modeling of the body.</p>

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In responding to the last Office action in the '379 application, claims 52 and 78 where amended as shown below.

52. A body of a vehicle for hauling material having a front wall, a pair of sidewalls and a rear edge, the body made by the following process:

- ~~(a) determining a representative point of use for the vehicle;~~
- ~~(b) collecting data from the representative point of use;~~
- ~~(c) determining a desired location for a load center of gravity on a chassis of the vehicle;~~
- ~~(d) determining a desired volumetric capacity for the body;~~
- (e a) establishing an initial line for a floor of the body, an initial line for a front wall of the body and an initial inside body width ~~collecting information describing a three-dimensional shape of a heaped load of material at an anticipated point of use for the body;~~
- (f b) developing from the collected information a three-dimensional volumetric model of a load to be carried in the body on the chassis defined by the initial floor line, the initial front wall line and the initial inside body width using the data collected from the representative point of use with the three-dimensional volumetric model having a volume and a volumetric model center of gravity located on the chassis, the collected data information regarding the shape of an actual load carried in an existing vehicle body as it extends upwards to the actual load top from at least two of a group consisting of (1) the body front wall, (2) one of the two body sidewalls and (3) the other of the two body sidewalls;
- (g c) adjusting a set of design parameters of the body until the load model center of gravity is located proximate a the desired location for a the load center of gravity on a the chassis of the vehicle from step (e) and the volume of the three-dimensional volumetric model is substantially similar to a the desired volumetric capacity of the vehicle from step (d); and
- (h d) producing the body in accordance with the set of design parameters.

78. (Presently Amended) A body of a haulage vehicle made by a process comprising:

- (a) modeling a shape of a load of heaped material in three dimensions, where the shape is substantially conical and the modeling incorporates information about angles of repose for a particular heaped material to be hauled by the vehicle ~~material is a particular material whose characteristics affect angles of repose in three dimensions that comprise the shape of the heaped material;~~
- (b) modeling a body to hold the substantially conically shaped load of the material, where a shape of the body is defined by predetermined parameters; and
- (c) producing the body according to values of the predetermined parameters resulting from the modeling of the body.

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With these amendments to claims 52 and 78, applicants in the '379 application argued that claim 52 was improperly rejected under Section 112 for missing an essential element. In this regard, the examiner's supervisor agreed with the applicants during an interview and represented to the applicants that the rejection would be withdrawn in the next examination of the claims. As for claim 78, applicants amended the claim to expressly require the modeling of the shape of the load in three dimensions to incorporate "information about angles of repose in three dimensions for a particular heaped material to be hauled by the vehicle."

U.S. Patent No. 5,887,914 is an earlier invention by one of the two co-inventors of this application and the parent '379 application. The '914 patent concerns designing a body for a haulage vehicle to haul both coal and overburden. The '914 patent teaches different heaping characteristics for these different materials (e.g., Figs. 11C). However, the '914 patent assumes a fixed location for the load's center of gravity during the process of designing the body and works with only two-dimensional profiles of the load. The '914 patent does not teach modeling a load in three dimensions where the three-dimensional shape is substantially conical. Instead, the '914 patent uses only two-dimensional "profile" heaping angles and follows the "one-size-fits-all" approach of the prior art by assuming that each of all coal and all overburden heaps in the same way.

In contrast to the teachings of the '914 patent, claim 3 requires modeling a three-dimensional load to be substantially conical and then modeling a body to hold the load. The '914 patent simply teaches building bodies to accommodate different categories of material that happen to have different heaping characteristics without any suggestion of modeling a load of the material in three dimensions as claimed. Nothing in the '914 patent suggests modeling a load of material in three dimensions let alone modeling a three-dimensional load as a conical shape.

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CONCLUSION

The application is considered in good and proper form for allowance, and the examiner is respectfully requested to enter this amendment so that the application can be passed to issue.

If, in the opinion of the examiner, a telephone conference would expedite the prosecution of the subject application, the examiner is invited to call the undersigned attorney.

Respectfully submitted,



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